THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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PROFESSIONAL ASSOCIATIONS.

An item of news from abroad shows us how recent a growth the veterinary development of this country is, compared with that of some Continental ones. A few weeks ago the Society of Swiss Veterinary Surgeons celebrated its centenary, and, small as Switzerland is, its National Veterinary Association numbers 400 members.

No veterinary society in this country is anywhere near its centenary. Jubilees of local societies will be not uncommon before long, but hardly any man now on the Register will see his local society celebrate its centenary, and probably not one will see our "National" do likewise. It is no great exaggeration to say that our recognition of the value of professional associations is a growth of the last half-century, though no one who sees the present number and vigour of our societies would suppose so. We are making up for lost time.

One of the healthiest signs in our professional life to-day is the continuous development of our associations. Their recent union with the "National" should greatly increase their power, but it will be some time yet before the union is in full working order, and a great deal will depend upon what steps are taken to make it so. The local societies preserve their independence, and may be relied upon to lose neither vitality nor utility. But to bring the larger "branches" and the whole body of the "National" to their full possible measure of utility will require energy and discretion combined.

SOME SECONDARY EFFECTS OF THE TUBERCULOSIS ORDER.

Indirectly, the Tuberculosis Order may exercise a considerable educative effect amongst clinicians. It has brought the centrifuge and the oil immersion lens into frequent use in many practices; and this may lead to a much more general recourse to high-power microscopy than has yet been common amongst us. Again, the Tuberculosis Order will make some practitioners more minute and thorough in their clinical examinations than heretofore—as, for instance, in auscultation. Auscultation of the lungs in the larger animals has been much neglected by clinicians, simply because many of them doubt its reliability. Most of these, under the Tuberculosis Order, will give it a new and more careful trial. The whole effect of the Order will tend to improve and refine our everyday methods of diagnosis; and the improvement will by no means be confined to tuberculosis. It is too soon yet to expect much apparent evidence that this is taking place, but we do expect to see such evidence before very long.

ANTI-TETANIC SERUM.

By J. P. ISHERWOOD, M.R.C.V.S., Blyth.

Seeing reports of several cases of tetanus in last week's *Veterinary Record*, in which anti-tetanic serum was used as a prophylactic and otherwise. I thought this case I am recording might interest your readers.

On Saturday, Oct. 4th, I was asked to examine a bay draught mare, six years old and about 16-3 h.h. The mare was working at the time—taking a load of hay into the town. Apart from a slightly elevated temperature and a quickened pulse, she did not appear to have very much the matter with her, so I prescribed a fever draught.

On the Wednesday following, the owner's son called on me and told me the mare was not going on as they would like, and asked me to see her. He said she was constantly twitching her tail and seemed stiff all over.

I went up at once, and found her in the condition stated; the muscles all over the body were pretty rigid, the tail constantly twitching, and when backed—which was accomplished with great difficulty—this symptom was intensified, and the tail assumed the horizontal position.

Our attempts to administer a physic ball were utterly futile, as it brought on a violent spasm every time I tried to get hold of her tongue, and she nearly ran us down. The head being thrown up, with the membrana nictitans shot over the eye, almost completely covering it.

Fortunately I had one dose of Parke, Davis and Co.'s antitetanic serum at home, so I promptly went for it, and gave her the full dose hypodermically. I telegraphed for four more doses that night, received them next morning, and gave her a full dose (3000 units) daily, and three more doses after that, eight altogether; the last doses I divided into two, and injected one in the morning and the other at night. At the end of which time the tetanic symptoms were fast disappearing, and the mare nearly all right, though she did not work for three weeks.

The mode of entry of the germs was undoubtedly by a wound about the size of a penny when I saw it, though it had been larger—situated just behind the left ear. This was *very sensitive* to the touch at first, but after each injection it became less so, and after the tenth day she offered no resistance when it was dressed. The dressing used was a fairly strong lysol solution.

I may say the trismus *was not* a well-marked symptom in this particular case, and she managed to sustain herself on mashes, and even hay, during the whole time.

We were fortunate in getting a well darkened loose-box, well away from all noise, and she was only visited by one attendant.

In recording this particular case, one must remember we had almost everything in our favour. Firstly, the sub-acute character of the disease. Secondly, the ability to take nourishment. Thirdly, the evident potent action of the serum; and fourthly, the very favourable surroundings.

As a rule we are called in when our unfortunate patients are *in extremis*—or next door to it, and no serum, however scientifically prepared, can be of any use.

In conclusion, I may state that with the exception of mag. sulph. powders given night and morning, she received no other medicine than the anti-tetanic serum.

A CURIOUS ACCIDENT.

A large retriever which is very fond of retrieving was out with the footman, and a portion of an old ash walking stick, about 18 inches to 2 feet in length, with a crook handle, was thrown for the dog to fetch. All at once while running with the stick in his mouth the stick disappeared down the dog's neck with the exception of the handle. The footman seized the handle and with some difficulty pulled it away. There was some blood from the mouth, but he seemed otherwise little the worse for the mishap. Nothing apparently troubled him for about eight days, when he appeared very ill, showing symptoms of rigors and general disturbance, with loss of appetite and a temperature of 104.

On examining the mouth a large ulcerated wound on the left side of the tongue was found, and a large swelling near the situation of the upper part of the postea spinatus muscle. This proved to be a kind of cyst which was drained and syringed, and the dog made a rapid recovery.

The crook handle must have caught in the ground or a tuft of grass whilst he was running, and the impetus have been so great that the other end (somewhat pointed) was driven down under the tongue and through the cervical muscles to the shoulders.

W. W.

A PUZZLE IN LAMENESS.

On Nov. 3rd I got a wire "come and see hunter lame." That afternoon I called and saw the horse, a six-year-old light hunter gelding, the property of a nobleman. I found him in his box quite comfortable and happy. While I stood to watch him for some minutes the groom informed me that the horse was taken off grass in September, and had been getting quiet exercise; that he started to go lame in front a week ago, and that he was sure the horse was getting "that navicular," I asked him to put a halter on and get the horse outside. The horse walked out perfectly, and to my surprise trotted perfectly sound. After trotting up and down several times he was still sound. The groom said, "he was a cripple yesterday." I told the groom I could not see any sign of lameness, nor anything wrong to cause lameness. I advised that the horse get a few hours work next day and let me know again how he was.

In a few days I got a note that the horse was still lame. I called again, got the horse pulled out, and again found he went perfectly sound. I decided to have a ride and ordered the saddle on. Immediately the saddle was fixed the horse walked dead lame on the off fore.

I got on his back and he was almost paralyzed in the off-fore at a walk.

I took him to a paddock and found he could gallop sound, trot fairly sound, but a cripple at a walk.

I had the saddle removed, and again, to my surprise, the horse went absolutely sound at once. I put him in the lunge with a long rope, and had him trotted and galloped round and round in each direction, without any sign of lameness.

I got the saddle on again, and he at once went dead lame. Then I put up the groom without a saddle, and he walked dead lame, trotted not so lame, and galloped sound.

There is no sign of pain or tenderness on any part of the back, shoulder, or limb, and the horse has not been lame before. I know him over a year.

I concluded there was some nerve trouble (safe opinion) in the shoulder region. I advised hot bathing, massage, and absolute rest.

I have seen the horse twice since, and he goes perfectly sound till the slightest weight gets on his back, when he at once walks lame, though he is not much lame in trot, and can gallop sound.

I confess I am completely puzzled, and would be grateful for some help from your readers as to what is really wrong. I relate the case because it is a peculiar and rare one, and under ordinary circumstances one does not dream of having a horse ridden to see if he is lame.

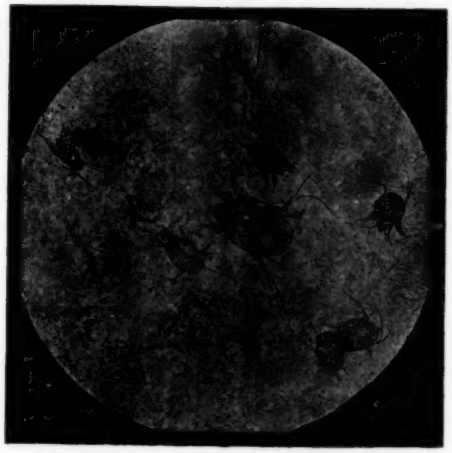
Ennis. P. J. Howard.

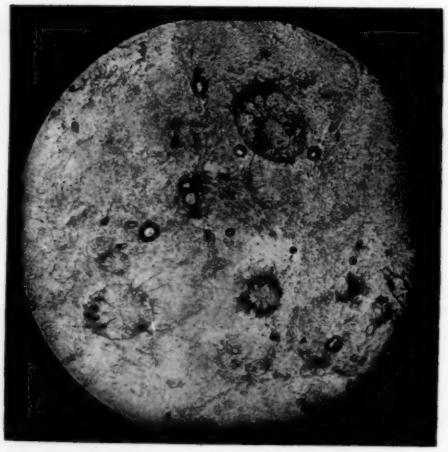
ABSTRACTS FROM FOREIGN JOURNALS.

Laryngeal Tuberculosis in the Ox.

Prof. Schlegel reports (*Zeitschr. für Tiermedizin*) a number of cases of bovine laryngeal tuberculosis, some of which were associated with open pulmonary tuberculosis. His observations have led him to the conclusion that tuberculous growths of the laryngeal mucous membrane often penetrate outwards between the laryngeal cartilages into the subcutis, so that the tuberculous new growths, ranging from the size of a bean to that of a chestnut, can be recognised in the living animal by direct palpation of the outer surfaces of the larynx. Schlegel regards this fact as important in practice.

The author also describes a case of laryngeal tuberculosis in a cow, associated with tuberculous ulceration of the trachea. In addition to laryngeal and pulmonary tuberculosis, ulcers ranging from the size of a pea to that of a shilling were found in





THREE SPECIMENS TAKEN IN ACTUAL DIAGNOSIS (*Pillers*).

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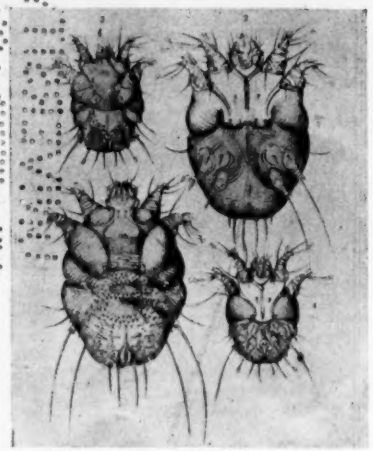
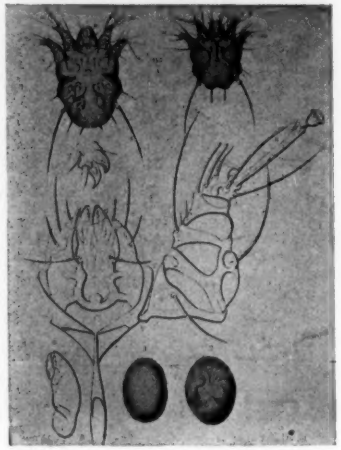
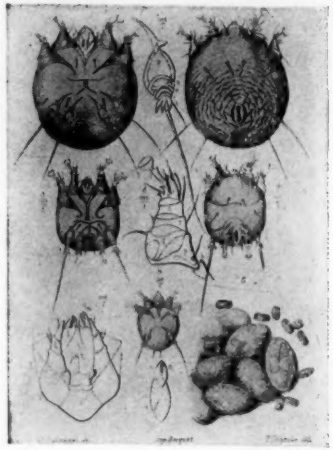


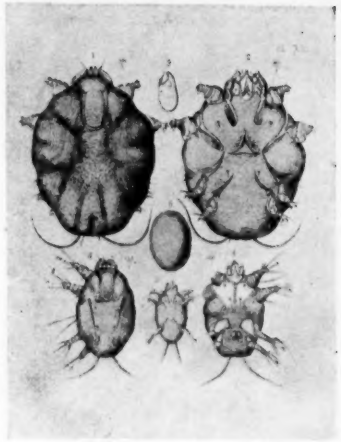
1. Sarcoptes Scabiei.—*Top left*, male, dorsal : *Right*, male ventral ; dorsal : *Right*, male, ventral.



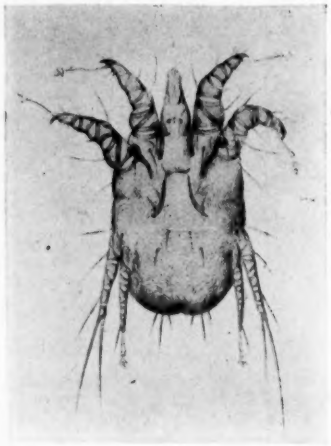
2. S. Scabiei—Egg : egg with embryo : hexapod larva : octopod larva : rostrum and first leg : mandible.



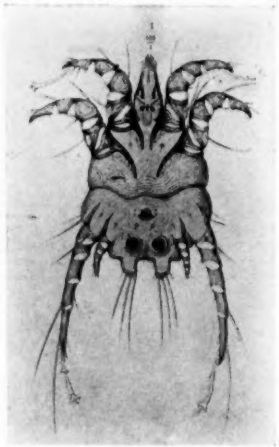
3. S. notoedres—var. muris.—Ovigerous female, ventral : dorsal : male, ventral : dorsal : a hind leg : a fore leg : rostrum : hexapod larva ; portion of nest, eggs in various stages.



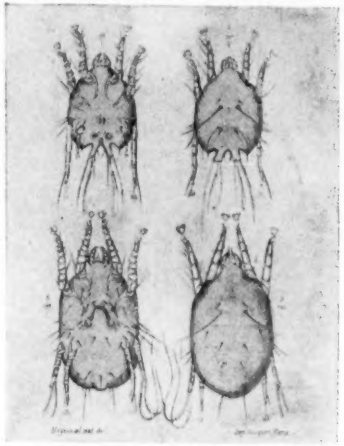
4. S. Mutans—Ovigerous female, dorsal : ventral : male, dorsal : ventral : egg ; hexapod larva.



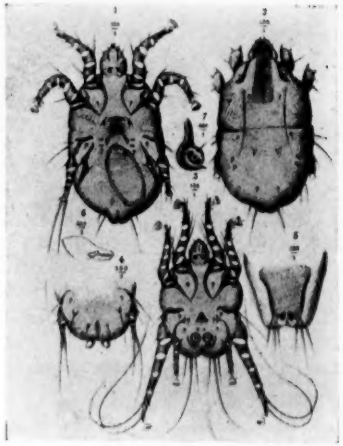
5. Psoroptes longirostris—var. equi. Ovigerous female, ventral.



6. P. longirostris – Male, ventral.



7. Chorioptes spathiferus—Male, ventral : dorsal : ovigerous female, ventral : dorsal.



8. Chorioptes ecaudatus—Ovigerous female, ventral : dorsal : male, ventral : posterior extremities of young female : of male, dorsal.

the mucous membrane of the trachea. Tubercle bacilli were found to be fairly numerous in these ulcers, and also in one upon the larynx.

For demonstrating the open nature of the lesions during life in these cases, Schlegel thinks that the best method is the now well-known one of introducing a tampon on a wire through a canula into the trachea.—(*Berliner Tier. Woch*).

The Sale of Frozen Meat in Switzerland.

A decree of the Council of State (April 8th, 1913) regulating the sale of frozen meat in Switzerland, has superseded that of May 31, 1912. The following are amongst its provisions.

Art. 2. Requests for authority to sell frozen meats must be addressed to the Department of the Interior and of Agriculture. The authorisations are only granted temporarily, and will be withdrawn in the case of non-observance of the regulations.

Art. 4. Frozen meats must not be placed upon the market before being slowly thawed. With that object they should pass from the freezing chamber into the thawing chamber, and must not remain in the latter for more than five or six days.

Art. 5. Frozen meats should be sold in special places. Their sale, however, will be allowed in butchers' shops selling fresh meat, upon condition that the places permit a distinct exposition and a completely separate manipulation of the two qualities of meat. All the butcher's shops selling frozen meat should be provided with a cold, dry chamber.

Art. 6. A table of the prices of the different pieces of frozen meat shall be put well in sight in each place of sale.

Art. 8. The fee for inspection is 0·10 fr. for each 25 kilogrammes or fraction of 25 kilogrammes. (25 kilogrammes = about 55 lbs.—*L'Hygiene de la Viande et du Lait.*

W. R. C.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The quarterly meeting was held at the George Hotel, Northampton, on Thursday, November 13th. Mr. J. Martin, of Wellington, Salop, President of the Association, took the chair, and there were also present Messrs. A. B. Forsyth, Cannock; A. Over, Rugby; H. S. Reynolds, Daventry; W. H. Brown, S. J. Marriott, Northampton; E. Parks, J. Bainbridge, Wellingborough; J. M. Whyte, Tenbury; D. Forwell, Towcester; W. W. Grasby, Daventry; Brennan DeVine, Birmingham; P. Evershed, F. H. Gibbings, Nottingham; G. Wartnaby, Burton-on-Trent; F. L. Gooch, Stamford; W. H. Brooke, Handsworth; J. J. Burchnall, Barrow-on-Soar; and the Hon. Sec. (Mr. H. J. Dawes, West Bromwich.)

The visitors present were Dr. Percival, Northampton; Mr. A. W. Noel Pillers, Liverpool; and Mr. W. H. Brown, South Kensington.

Apologies for unavoidable absence were received from Profs. McCall, Penberthy, Hobday, Messrs. L. W. Heelis, R. C. Trigger, J. W. Coe, T. Slipper, Shipley, Clifford, Burndred, R. Hughes (Oswestry), H. B. Hiles, R. Cockburn, C. E. Dayus, F. V. Steward (Hereford), W. S. Carless (Worcester), T. Chambers (Dudley), E. Ringer, J. Martin, Jun. (Newport), J. R. Carless (Shrewsbury), E. H. Woodcock, G. Smith (Tunstall), J. Malcolm, H. Thackeray, Crofts, and others.

The minutes of the previous meeting were confirmed.

New Member.—Mr. Edwin Hall, of Wellington, Salop, on the motion of the President, seconded by Mr. DeVine, elected to membership of the Association.

Letters of Resignation.—The Hon. Sec. announced the receipt of letters from Mr. W. T. Brooke, of Warwick, and Mr. W. G. Burndred, of Hanley, tendering their resignation from the Association. Mr. Brooke gave as his reason the fact that he was shortly going abroad, and his resignation was accepted with regret. In the case of Mr. Burndred, it was ordered that the Hon. Sec. write to him with a view to inducing him to reconsider his decision.

Report of the Council.—The Hon. Sec. presented a report from the Council of the Association, which met prior to the general meeting. It was presided over by Mr. Martin, and there were also present Messrs. Burchnall, Brooke, Gooch, DeVine, Wartnaby, A. Over, Grasby, and the Hon. Sec. The Hon. Sec. announced to the Council that Professor Reynolds had promised, through Mr. Grasby, to give a demonstration at the next meeting of the Association, which being the annual meeting will take place in Birmingham, of some operations upon the dog. It was recommended that the local arrangements be left in the hands of a small committee, consisting of Mr. DeVine, Mr. Malcolm, and the Hon. Secretary.

The question of the payment of the affiliation fee of 1/- per member to the National Veterinary Association was discussed, and it was recommended that the Treasurer be instructed to pay the fee in respect of all members whose subscriptions have been received up to the end of June in each year, and the balance at the end of each financial year.

Mr. Gibbings moved that the report of the Council, together with the recommendations contained therein, be approved. This was seconded by Mr. Over and carried unanimously.

The late Mr. William Hunting.

The Hon. Sec. read a letter he had received from Mr. J. Malcolm relating to the lamentable death of Mr. William Hunting, and stating that he very much regretted his inabilily to be present to testify personally to the great loss which the profession had sustained by the death of Mr. William Hunting. Mr. Malcolm's words so admirably expressed the views of all of them that he (the Hon. Sec.) would like them recorded on the minutes of this meeting. Mr. Malcolm's letter was as follows:—

"Since the last meeting of our Association the veterinary profession has to mourn the loss of William Hunting, and I feel sure the Association will to-day send a resolution of our deep sympathy and condolence to his relatives. I regret exceedingly I cannot be with you to join in that resolution. He was one of our most honoured honorary members, one whom we all liked and loved, and in a sense idolised. And no wonder, for he was not only a great veterinarian but he was a unique personality, a rare being whom it did one and all good to know. He loved his profession intensely, and spent himself freely and without stint or thought of self in its well being. Throughout his professional life he was one of our real teachers. Always a searcher after truth, he kept on open mind on all debateable points, and there was nothing he appreciated more than an open mind upon unsettled subjects in others. The possession of this faculty he always attributed to the influence of his teacher, John Gamgee, but whatever Gamgee's influence was, there is no question that Hunting inherently

possessed this qualification. His writings in *The Record* brought weekly instruction, interest, and pleasure to all his readers, and all know how he travelled the country from end to end to attend veterinary meetings to lecture upon and discuss matters of interest to the members. And we can remember how we benefited by his illuminating talk, keen insight, logical deductions, and terse, explicit, lucid exposition of the subject under discussion. Literally a young man all his life, he revelled in meeting a young professional enthusiast, and discussing with him matters that seemed of vital interest or prime importance. In this way many of our best members, particularly in their early years, have been indebted to him for the valuable information and advice he so delighted to give. I shall never forget the first day, now over thirty years ago, I spent in his company. Having been three years with his father, I knew his own people and many of his early friends, both personal and professional. When I left him that night I thought him in many senses the most remarkable man I had met. And when acting as secretary to the Hunting Testimonial Fund many of the letters I received showed that I was not alone in this view. These letters also revealed that he was held in the most affectionate regard by the profession."

The HON. SEC. (Mr. H. J. Dawes) said that Mr. Hunting was elected in the year 1888 as an honorary associate, and seven years later, namely in 1895, he served the office of President. A survey of the minutes of their meetings since Mr. Hunting had belonged to the Association showed how great a part he had played in their deliberations. He was very regular in his attendance for a number of years and read them several papers. A paper by Mr. Hunting always drew a large gathering, whilst his contributions to the discussion of papers read by other members were invariably a source of instruction and pleasure. If Mr. Hunting was at variance with the views expressed by an essayist, he expressed his own opposite opinion in a kind and sympathetic manner, which was one of his noblest characteristics. But in every sense of the term Mr. Hunting was a splendid man, and, as Mr. Malcolm had suggested, he possessed a personality which made him absolutely unique in the veterinary profession, not only respected but beloved by all who knew him. He (the speaker) remembered him as an examiner of students, and the more than friendly interest he always manifested in the work of young men just embarking upon their professional career, would be recalled by many of them. Now that he was gone, they had to mourn the loss of a brilliant practitioner, a ready writer, a deep thinker, and a man who from all standpoints had shed light and lustre on their calling. Such a man would be greatly missed, and his place in the councils of the profession would probably never be re-filled. He moved that a letter expressing the deep and abiding sympathy of every member of this Association be forwarded to his sorrowing relatives.

Mr. GOOCH said he took a melancholy satisfaction in seconding the motion. He was more than shocked to hear of Mr. Hunting's death, because it was only a few days before his last illness that he met him at a meeting of the National, when he was as bright and cheery as ever. They had lost in Mr. Hunting one whom they were proud to call a brother practitioner, and one who, as a clinician, was probably without an equal.

Mr. GIBBINGS, Mr. WARTNABY, and others having briefly endorsed the remarks of the previous speakers, the motion was carried *sub silentio*.

THE LATE MR. J. THOMSON, OF COVENTRY.

The HON. SEC. said he had the mournful duty to announce the death of yet another member of the Association, in the person of their esteemed friend and colleague, Mr. J. Thomson, of Coventry. They ought not to allow the occasion to pass without recording their sense of the loss which the Association and the profession generally had sustained by the removal of a man of Mr. Thomson's high character, both as a practitioner and as a man of the world. He begged to move that Mrs. Thomson and family be informed by letter of the genuine regret they all felt at his decease, and of their sympathy with them in their bereavement

Mr. A. OVER seconded the motion, which was agreed to.

THE INTERNATIONAL VETERINARY CONGRESS.

The HON. SEC. obtained leave to refer to this matter. He was sorry to say the appeal to members of the profession for financial support had not been as satisfactory as could have been wished. In a fortnight's time, he would be sending his list up to the Treasurer, and there were still a good many members whose names did not appear in it Since the last meeting, he had received promises of a further £15, which brought up the total amount from members of this Association to about £370. He need scarcely remind them again that when the Congress met in other countries the governments of those countries made the local committees handsome subsidies. We in England receive no help or practically none from the State, and have to provide hospitality to the foreign delegates at our own expense. For the credit of the profession, we must see that in England the delegates are as well entertained as they were elsewhere. At present 30 or 35 members of the Association had not replied.

SOME ASPECTS OF MANGE IN HORSES.

By A. W. NOËL PILLERS, F.R.C.V.S.

Mr. Chairman and gentlemen,—Last year, when I had the pleasure of reading before you a paper upon "The methods whereby parasites produce their injurious effects," great interest was shown concerning the many aspects of equine mange, and I promised at some future date, to offer for discussion some remarks upon that subject. I am now pleased to be able to fulfil that promise, confining my attention to the horse alone. Our standard text books, such as Neumann's "Parasites and Parasitic Diseases of the Domesticated Animals," Hutyra's and Marek's "Special Pathology," Law's "Veterinary Medicine," and Friedberger and Fröhner's "Veterinary Pathology," all contain so much information on the subject that I feel any remarks of mine will only be of the nature of a "tabloid extract" of the material contained therein. Our periodicals during the last few years have contained frequent references to the manges. In March, 1909, Mr. H. C. Harrison gave a short paper before the Lancashire Veterinary Medical Association on the Parasitic (Lancashire) Mange Order of 1908, and another paper was read by Mr. R. Bennett before the Central Veterinary Society in May, 1911. The most important contributions, however, have been by Sir Stewart Stockman and Mr. H. A. Berry in the Annual Reports of the Board of Agriculture and Fisheries for 1906 to 1909, and in *The Journal of Comparative Pathology and Therapeutics*. These latter papers refer to sheep scab, but they are of general interest with regard to certain of the mange mites. "The treatment of parasitic mange of the horse" was discussed in a short paper by myself before the Yorkshire Veterinary Medical Society on April 25th this year.

With this amount of literature before us, I do not propose to discuss the diseases in a systematic manner, but to mention only certain important interesting aspects which they present, some of which I shall be able to bring out better by means of lantern slides and specimens. We shall therefore consider briefly: (1) the position of the mange mites in nature and their syno-

nymy; (2) the characteristics of the various genera; (3) a rough outline of their life histories; (4) their vitality, and go more fully into (5) the degree of parasitism; (6) seasonal occurrence; (7) parts affected; (8) diagnosis; and (9) principles of treatment.

The position of the mange mites in nature and their synonymy. Characters of the sub-kingdom, class, order, and family here given.

Kingdom	Animalia
Sub-Kingdom	Arthropoda
Class	Arachnida
Order	Acarina
Family	Sarcoptidæ
Sub-Family	Sarcoptinæ
Genera	
1. Sarcoptes	4. Psoroptes
2. Notoedres	5. Chorioptes
3. Cnemidocoptes	6. Otodectes

We recognise one species of each of three genera as occurring on the horse. Thus, we have sarcoptic, psoroptic, and chorioptic mange. The parasites are known by the following names:—

The sarcopt:
Sarcoptes scabiei var *equi*, Linne, 1758.
Acarus scabiei, Linne, 1758.
Sarcoptes equi, Gerlach, 1857.
The genus *Sarcoptes* was founded by Latreille, 1806.

The psoropt:—
Psoroptes equi var *equi*, Hering, 1838.
Sarcoptes equi, Hering, 1838.
Dermacoptes communis, Fürstenburg, 1861.
Dermatodectes communis, Verheyden, 1862.
Psoroptes longirostris var *equi*, Megnin.
Psoroptes communis, var *equi*, Raillet, 1885.

The genus *Psoroptes* was created by Gervais in 1841; *Dermatodectes* by Gerlach in 1857; and *Dermatocoptes* by Fürstenburg in 1861.

The choriopt:—
Chorioptes bovis var *equi*, Hering, 1845.
Sarcoptes bovis, Hering, 1845.
Symbiotes equi, Gerlach, 1857.
Chorioptes caprae, Gervais and Beneden, 1859.
Dermatophagus symbiotes, Verheyen, 1862.
Symbiotes spathiferus, Megnin, 1872.
Chorioptes symbiotes var *equi*, Raillet, 1885.

The genus *Chorioptes* was found by Gervais and Beneden in 1859, *Symbiotes*, by Gerlach, 1857, and *Dermatophagus*, by Fürstenburg, 1861.

The sarcopt is universally recognised as *Sarcoptes scabiei equi* or var *equi*, ; on grounds of priority, the psoropt should be known as *Psoroptes equi* var *equi*, but in this country it is usually designated *Psoroptes communis equi* or var *equi*.

For reasons of priority also the choriopt is known as *Chorioptes bovis* var *equi*, often, however, it goes by the name of *Chorioptes symbiotes equi* or var *equi*.

Rough Outline of the Life Histories.
[This slide shows at a glance the recognised life history of a psoropt, and from it the variations in the case of the sarcopt and choriopt can easily be pictured.]

Life History of Psoroptes.

Egg.
2—4 days (6—11)
Larva. (hexapod).
4 days
Nymph (octopod).
4 days.
Adult. { male. / pubescent female. } 4 days.
Ovigerous female.
Egg. { 7—30 during 8 days. / 2—3 per day.

Characteristics of the various genera: The chief points which distinguish the various genera are shown in scheme at foot of page.

Inasmuch as we are only considering a single member of each of the genera, *Sarcoptes*, *Psoroptes*, and *Chorioptes*, those characters will be sufficient to distinguish the three species.

Vitality. From an epizootiological point of view, the time that a parasite in capable of living apart from its host is important. Gerlach obtained results which agree closely with those of to-day.

	Sarcoptes.	*Psoroptes.*	*Chorioptes.*
In crusts in glass dishes.	5 to 6	10 to 14	10 to 12 days.
In inhabited stables	12 to 14	20 to 30	40 to 50 „
On damp skin	24 to 25	42 to 45	— „

Anterior two pairs of legs marginal. Posterior two pairs of legs sub-abdominal. Males with no copulatory suckers or abdominal lobes.	Anus terminal.		*Sarcoptes.*
Ambulacral suckers with a short pedicle on 1st and 2nd pairs of legs in both sexes, often on 4th in males. Parasitic in mammals.	Anus dorsal.		*Notoedres.*
Legs as above. Copulatory suckers may be present. Ambulacral suckers on all legs in males. None in females. Anus terminal. Ovoviviparous. Parasitic on birds.		(*Mutans*)	*Cnemidocoptes.*
All legs marginal. Male bilobed extremity to abdomen. Copulatory suckers present. Parasitic on mammals.	Ambulacral suckers on the 1st, 2nd, and 3rd pairs of legs in male, and 1st, 2nd, and 4th in female. *Long pedicle.*		*Psoroptes.*
	Ambulacral suckers on all legs in male. Short pedicle.	On 1st, 2nd, and 4th pairs in female.	*Chorioptes.*
		On 1st and 2nd pairs in the female.	*Otodectes.*

(Illustrations from *Parasites Articulés*, Mégnin).

The degree of activity shown at the longer period in each case is often such as to be impossible for the parasite to regain life and become pathogenic. After a month, with thorough disinfection, harness, utensils, and stabling should possess little danger of infection. The resistance of the ovum is weak, and many do not hatch when again placed under favourable conditions, if the host has been left. Ideal conditions for incubation are entirely absent, apart from animals in habitations. We hear a great deal concerning "mange-ridden wood work," and stables which have "harboured" the disease for years, but animals carrying the parasite without showing any symptoms are the real culprits—at least this is so in the psoroptic form.

Degree of Parasitism. There is no doubt that the three species now under consideration are obligatory parasites. There are, however, many interesting points with regard to the degree of parasitism and injurious effects produced by mange mites. On account of the boring habit of the ovigerous female sarcopt, this mite always produces disease, but with the psoropt and chorioptthe case is different. It seems probable that many recurrent outbreaks, recurrent attacks on the same individual, carters who "always" have an affected horse, sudden appearance of the disease in resting horses, and seasonable prevalence of these two diseases, may be explained in terms of a varying degree of parasitism. In the working horse, one can never exclude the chances of daily infection. It is often reduced to a minimum, but how is one to explain the yearly manifestation of psoroptic mange on one and the same animal in a stud to the exclusion of others—and this although the affected animal may have been treated?

We have a similar state of affairs in the case of the large headed louse (*Hæmatopinus macrocephalus*). During certain months of the year, one may not be able to find a single louse on an affected animal's body, yet later on the host becomes swarmed. In such cases ova and adults can be found in the depths of the long hair of the legs. The next year's crop can be nearly ruined by treatment whilst there are no signs of lice on the body. I suggest that the psoropt often exists more or less as a commensual in the mane and tail. This is no doubt governed by a series of conditions, the removal of any of which causes the mite to produce lesions characteristic of the disease. An allied mite, *Cytotides nudus* of *Cytoditinæ*, often exists in the air spaces of birds without producing lesions, yet at other times it gives rise to the greatest inconvenience. A very like state of affairs exists with many other parasites, which only reproduce in their numbers under certain reduced conditions of their hosts.

Coming closer to the mange mites, there is a rarely recorded condition seen in thick-legged cart horses where an accumulation of fine, cellular detritus contains innumerable choriopts; there appears to be no stamping or other symptoms. In many cases of circumscribed psoroptic mange, such as those with a small patch on the withers or croup, I have found the parasite in the tail. It is, I think, possible for a horse whose skin is in the highest state of activity to harbour the parasite without showing symptoms. More likely is this if the weather remains mild. Certain factors break down this immunity. Thus, an unclean carter allows the parasite to increase and spread over the body, and if he be unfortunate enough to get three horses following with commensual mites on them, they will surely soon produce lesions. Yearly outbreaks on the same animal are explained in the same way. If treatment had been absolute all the mites would have been killed, but it is difficult to get a man to dress the mane and tail thoroughly, in fact it is often missed. Further, there is the protecting action of unremoved epithelial scabs to be taken into consideration, especially those of old lesions, the tail and mane. Recurrent outbreaks are due to fresh infections, or more often to not applying so great attention to in-contacts as is really necessary, or to not dressing them at all, as they appear so spotless and far away from the affected animal.

Seasonal Occurrence. The seasonal variation in the prevalence of some manges, has long been well known. The number of reported cases gradually rises during the advent of colder weather (October), and continues so doing until about February, when there is a gradual decline. In the summer months the disease is at its lowest. These remarks apply equally to the psoroptic and chorioptic forms, but sarcoptic mange of the horse does not appear to be quite so seasonal.

Sir Stewart Stockman says with regard to sheep scab (*Psoroptes communis ovis*) that there are several explanations of the decline that takes place during spring and summer. They are (*a*) shearing, (*b*) the sheep are not crowded together as in colder weather, (*c*) improvement in bodily conditions with advent of new grass, (*d*) the decline in movement (markets, etc.), and (*e*) summer dipping. He regards none of these as being fully satisfactory, and moreover, generally speaking, none of them strictly apply to town horses.

Mr. A. W. Anstruther, in the 1912 Report of the Proceedings under the Diseases of Animals Acts, says of parasitic mange "that considerably more than one half of the outbreaks reported occurred in the first three months of the year, and that during the summer months the prevalence of the disease declined, to rise again as winter approached. It is not a matter for surprise that this should be the case, as the conditions under which the horses are kept in the winter months are clearly calculated to bring the existence of mange to light."

He does not say what these conditions are, or whether they are different in town and country. The seasonal prevalence is very marked in towns, and the only different conditions, so far as I have been able to observe are, the presence of a long coat and lower atmospheric temperature.

One of the surest ways of preventing psoroptic mange is by clipping susceptible animals all over. When it is remembered that in summer animals may harbour the parasite without showing any symptoms, that the disease tends to disappear on its own with the advent of warm weather, and that clipping is a good preventive, it seems certain that an explanation of the winter prevalence—or the summer scarcity is to be found in the requirements of the parasites for (1) protection, (2) warmth, and (3) food, and not conditions of the hosts *per se*. Not only are cases less prevalent in summer, but those occurring are not so severely affected. Possibly then, there is not much distinction to be drawn between severity of symptoms and seasonal occurrence.

Parts Affected. The localisation of the mange mites upon their hosts is variously stated. Little or no dispute arises over the choriopt, its *habitat* is the legs. I have taken them from the chest wall and stifle; possibly in rarer cases it may go higher, and as this form is not included in the Parasitic Mange Order, the characters of the parasite here become important.

Roughly speaking, the psoropt inhabits all those parts that can be seen from a bird's-eye view, often starting along the spinal column.

My experience with the sarcopt has not been in accordance with the statements of most works on veterinary parasitology. Law says it is seen "most commonly about the head, roots of mane or tail, the withers or back"; Neumann, that it is "observed about the neck and shoulders"; Raillet, "on the withers"; Megnin, "on the back and withers"; Lemaire, "on the withers, back and sides." In all the cases which I have been able to examine, in the early stages, the disease has always been confined to the underparts of the body, such as the intermaxillary space, tracheal

region, and lower aspect of the chest and abdomen. From these seats it extends upwards. Taking into consideration the burrowing habits of the ovigerous female sarcopt, these are certainly the parts which one would have expected to have been attacked.

Diagnosis. Much can be gathered with regard to this from an inspection of the lesions and the parts affected. In summer, the psoropt can often be seen at the edge of the lesions; but the absolute diagnosis of the form of mange present must always remain a microscopic one. Let us remind ourselves that, provided disease is produced on a horse, an adult acarus whose four hind legs do not project beyond the body margin, is a sarcopt; one with suckers on the end of long pedicles on the four front legs is a psoropt, and one with suckers and apparently no pedicle is a chorioptic. An undressed lesion should be sought out to obtain material for examination. The clinical features of the case will be some guide in taking material.

1. In summer, the psoropt can be looked for with the naked eye, or the hand lens applied to the edge of a scab or active lesion. Failing this, a little hair may be pulled, with its scab, from the edge of the lesion and warmed in a glass tube or petri dish, when the mites will be seen moving. If no parasites are found by these methods, a bunch of hairs with the scab should be taken and the scab snipped off with the scissors and allowed to drop into a petri dish containing a solution of caustic potash gr. xl. to ℥i. of water.

2. Hair from suspected chorioptic lesions must be treated in the same way. Nearly any part of the lesions will show them. It is immediately placed in caustic potash solution.

3. Material from the sarcopt lesion must be taken deeply, almost until the skin exudes lymph, and then placed under caustic potash solution in a petri dish.

After a period varying from a few minutes to several hours, the material can be examined in the dish under the lower power lens. The search can be made more accurate by placing portions of the moist material between two slides. The diagnosis lantern slides shown were taken in that way. By the above methods one is usually successful, but, of course, not always, and then the question arises, Does no acarus mean no mange? I feel sure that there are many cases of mange where it is almost impossible to find the acarus, especially is this so in a recent case on a thin skinned animal.

Principles of Treatment. Concerning these, one could say a great deal. No matter what aspect of treatment is being undertaken, it must be thorough. Sarcoptic mange is not the common form, and chorioptic can be treated similarly to psoroptic, so that my remarks will be directed to this form These remarks are based on the records of over 1000 cases treated in different ways, and although you will most likely disagree strongly with what I am going to say, I feel sure that if you kept a similar record you would be forced to the same conclusion. Now the psoropt lives on the skin, and is not difficult to kill, so that if one observes the following principles in detail, treatment should be successful in a minimum amount of time. It is the time that animals are kept in the stable that is one of the teamowners' greatest grievances against the Parasitic Mange Order of 1911.

(*a*) Clipping. It is essential to clip the animal down to just below the stifles and elbows; there are many cases in which this is not done, either the owner has some peculiar idea as to the value of the winter coat, or he is afraid of spoiling the animal's spring coat. I know veterinary surgeons who do not consider clipping necessary, but if they were to analyse the results of their cases with regard to toxic symptoms, secondary pneumonia, and recurrence, they would be surprised. This mange is a disease of the winter and long coats, and the value of removing the "cover" for the acarus is all important. I consider that the mane and tail should also be removed, because the parasite is in these places capable of obtaining a living without producing lesions of clinical importance for several weeks, or even months.

Besides reducing the death rate from toxic symptoms and pneumonia, a clipped animal uses less dressing. It is often wise in badly affected cases to use an old pair of clipping blades, on account of the liability of scurf to break the teeth. Clipping has other values; its reduces the activity of the parasite in winter, and so has a therapeutic value; it also shows the full extent of the disease. I cannot speak authoritively with regard to the value of slow yet careful gas singeing immediately after clipping. In a few cases I found it apparently hastened a cure, whilst in others nothing appreciable could be noticed. If the weather and animal be warm, then it kills a great number of the causal parasite. If the treatment described hereafter be carefully carried out, I do not think singeing is necessary.

(*b*) Removal of abnormal epidermal products. This is the next most important step. It is simple or difficult according as to whether the case is a recent and untreated one, or an old standing and blistered skin. It is to be accomplished by the addition of about two to three ounces of soda, or acetic acid, to the gallon of hot water, and using this on the animal's body with soap. The most important point here is the choice of a suitable soap. Many soaps blister the horse's skin, and this is the one thing that must not happen if a cure is to be effected. Roughly speaking, any soap that can be used on a man's arms or face will be safe. After the animal has been lathered and soaked all over, the scrubbing brush will remove practically all the scales. Special attention will have to be paid to the mane and tail, and also to seeing that the animal is washed all over. There is no great objection to the addition of a little of one of the coal tar disinfectants to the water at this stage, although I think that it can just as well be saved for other purposes. After all the soap has been removed by warm water, the animal should be dried, rugged, and exercised, and bedded on straw. With proper grooming and exercise, many recently infected and untreated cases will recover without further treatment. I do not recommend stopping here, however, but only mention it as bearing out the chief aim of these remarks, viz., to show that in my experience treatment is more often than not, too energetic, and worse than the disease.

(*c*) Application of an anti-psoric dressing. On the day after washing, the animal has to be dressed with some agent which will kill the parasites that have survived their drenching in soap solution. The choice of an improper agent for this is by far the commonest cause of error in the treatment of this mange. I cannot do better than quote here a few remarks from Megnin, who says:—"Although parasiticides are numerous, a choice of them is difficult; many are dangerous, and it is not wise to permanently damage the animal's skin in order to rid it of parasites. Certainly one can cure sarcoptic mange with petrol and benzine, but causing at the same time an irritation of the skin which will persist for very many weeks, and at the same time producing an artificial affection with as many drawbacks from the point of utility of the animals as mange itself. This is the result of numerous experiments we have made. These show that one can cure mange by means of substances which kill the acarus, and at the same time allow the skin to retain all its softness and suppleness, and which allows the animal to be used immediately after its cure, which can be obtained in eight days. There are two substances which are acaricides par excellence, namely, sulphur and nicotine. These substances, mixed with soft greasy or oily excipients, constitute the best preparations against mange."

My experience with this form coincides exactly with Megnins of sarcoptic mange, with one exception, viz., that tobacco dust—which is used on account of its nicotine-containing properties, varies greatly in its compensation, and I have seen several deaths from its employment.

Oil and sulphur are then to compose our dressing. The sulphur demands no comment, but the choice of a suitable oil is most difficult, both from the therapeutic and pecuniary aspects. A suitable oil must not blister the skin, nor dry with a varnish-like layer, nor tend to turn rancid, nor prevent the normal functions of the skin taking place. In addition to these, it must be cheap. It is most difficult to get an oil to answer all these requirements, and one has to fall back upon the least harmful.

There are many bodies such as lard, lanoline, vaseline, or petrolatum (suet, horse fat, and goose grease are rarely used in veterinary pharmacy) and palm oil, which although occasionally employed can be discarded at once. They are dangerous when applied over large surfaces. Rape, linseed, and castor oils either cause dermatitis soon after application, or later on by forming a varnish-like film ; olive oil is too dear, in addition to its tendency to become pasty in cold weather, to oxidise in air, and then go slowly rancid. The least dangerous oil is, I think, train oil. It is cheap. I have recently heard cotton oil spoken highly of. A peculiar feature about most oils is that for a period you will have no untoward damage to the skin, and then with the advent of a new supply of oil, comes marked skin corrugation in the treatment of your mange cases. This may be due to substances used in the refining process having settled to the bottom of the barrel. The proportion of sulphur to oil will vary 1/10 to 1/5 *by weight*. It is important that this dressing be supplied in an open vessel, such as a bucket, which can be stirred with a stick. Narrow necked opaque jars often contain several inches of sedimented dressing when broken. The animal should be covered at twice, the near side and then the off, at an interval of 24 hours. Here detail is essential ; places commonly missed are the forehead, mane, tail, submaxillary space, breast, and inguinal region.

(*d*) Exercise and friction to the skin. The animal must now receive night and morning a good grooming with a duster, which can be wrung out in a suitable solution of some coal tar preparation. Exercise must be given twice a day. These last two items are as important as the others.

If a repetition of this course of the treatment is necessary, it can be undertaken on the 6th to 8th day, after which the animal should be able to resume work. The coat of a clipped and treated animal grows very quickly, and some time after returning to work, no harm can be done by again clipping and applying a dressing when it is at rest at the week end.

I know that mange cases are left in the stable and neglected, and that accounts for a great deal of the untoward sequelæ which we have to put up with. Many practitioners will recommend the addition to oil and sulphur of discutients, such as the alkaline carbonates or acetic acid ; their work should, however, have been done before the dressing is applied. Oil of tar will be used by others. Some I know will laud tobacco refuse, but its varying composition is enough to my mind to bar its use. Lime and sulphur will have its advocates. Proprietary dips I have seen used extensively with terrible results. Admirable though many of them may be, they lend themselves to careless or over-anxious uses by horsekeepers or owners. If a small quantity is given out, half to be used in a bucket of warm water once a week, you may rest assured that the careful, or careless, man is most likely to use all the material in abont three-quarters of a bucket of water, and apply it for two or three days in succession—with disastrous results to the skin. I do not think that watery dressings on the horse have given such good results as one expected. The damaged skin, now more prone to irritation, wants some bland oil to replace the deficient natural oil and protect the abraded surfaces from the action of the air or acrid discharges.

What I want to insist is that our treatment must be mild. Perhaps it may be said that I am going too far in the mild direction. I am satisfied that I am not, but I am sure good will be done if some of the heroic treatments of to-day are replaced by milder measures,

There is much more that might have been said on the many other aspects of the diseases, but I fear that I have already taken up too much time.

After reading the paper Mr. Pillers exhibited the slides illustrated, and srveral others.

Discussion.

Mr. Brooke said that Mr. Pillers' paper had interested him beyond measure. When Mr. Pillers' read a paper at the last annual meeting, he gave them hints which many of them had found extremely useful, especially how to distinguish the three parasites with which they had principally to deal, and he had given them quite as practical a paper on this occasion. He would like to have the information contained in the paper preserved in some handy form. Mange was always cropping up in one direction or another, and the pictures which had been thrown upon the screen that afternoon had taught him a great deal. He and his friend Mr. Dawes had used the petri dish and had benefited very much from it. Mr. Pillers did not seem to have discovered the ideal oil for use in cases of mange, and he had excluded from his paper some that many of them were in the habit of using. They ought to use rugs with removable linings after clipping. To his (the speaker's mind, the dressing *par excellence* was sulphur, which could be coloured in cases where they did not want the client to know too much as to what they were doing. He had also used with some degree of success a mixture of three per cent creosole. Another good remedy was sulphur, oil of tar and linseed oil, but it was open to the objection that it dried in a varnishy fashion. He had searched the text books many a time for the very information Mr. Pillers had given them that afternoon, and he had either not found it at all, or it was expressed in nothing like so lucid a manner as the essayist had put it that day.

Mr. Grasby said he had been an attentive student that afternoon, and had very much enjoyed the subject. He was glad to hear Mr. Pillers express the opinion that it was best to have the patient thoroughly washed before any application of the dressing. He thought the neglect of that precaution was probably the reason of many of their cases hanging on as long as they did. It was a good thing to have the patient well washed, but they should remember that some soaps blistered horses, which was a thing necessary to avoid. Soft water, plenty of bran, and a little energy on the part of the man was a good thing. He himself did not use much soap, but such as he did use was the best hard soap, like that used in the house. Mr. Pillers said the mane and tail were sometimes missed in washing, but he should have thought they would have been the very places at which a start would have been made, because they wanted to be clipped closely. It was new to him that they could rely on oil and sulphur only, because they had generally used turpentine and tar, which would enable it to stick to the skin so as to let the dressing do its work properly. He wondered whether in chronic cases Mr. Pillers thought it advisable to go on using such irritants as ammonia and turpentine, which were found necessary sometimes to get the scale off. The

harness that the patient had been wearing ought not to be overlooked. Speaking for himself he had the lining removed from the collar and saddle, and leather part boiled and afterwards treated with oil or something of that sort. He also insisted on a fresh lining being put in. For bedding, Mr. Pillers suggested straw, but in the Army Veterinary Department it was a regulation, in the case of mange, that the bedding should be removed, and the patient had to lie on the bare ground with a little sand thrown down perhaps. That was rather rough treatment, but it seemed to answer its purpose. He would sooner see the horse have a little sawdust than nothing at all.

Mr. GOOCH said he was struck with one matter which Mr. Pillers strongly emphasised, and that was the necessity for a preliminary treatment of the patient before the application of the dressing. That seemed to be the essayist's sheet anchor, and unless they carried out the clipping and washing, Mr. Pillers did not think the dressing would have a lasting effect. There had been some mention of the use of nicotine as a cure. Well, nicotine might be all right in the hands of an expert, but if left to the layman the results might be disastrous. He hoped Mr. Pillers would allow his paper to be printed *in extenso*; there was much in it of practical utility to the veterinary surgeon.

Mr. WARTNABY said the slides that had been shown to illustrate the paper were of more use than the paper itself, because without them the paper was of theoretical rather than practical use. He should like to ask Mr. Pillers if he could give them any real recipe for dealing with the scab parasite in sheep. There were many cases where he had inspected flocks of sheep and satisfied himself that the animals were suffering from scab, and he did not mind confessing that he had the greatest difficulty in finding the parasite. With regard to the dressing, he would be very glad if Mr. Pillers would tell them the proportion of nicotine he used. The dressing Mr. Wartnaby used himself, after having the animal carefully washed with warm water, soft soap, and a handful of washing powder, was train oil, sulphur, and tar thinned down with a little naphtha. If the patient was not better at the end of three days he applied it again, and let it stand another three days. Some years ago he took over the treatment of some pit ponies, about ten of which he found to be suffering from chronic mange. After some weeks treatment he thought he had cured them, but next autumn two of them broke out again. He adopted the same method of treatment and flattered himself for the second time that he had cured them, but they broke out again the following autumn—and so it went on for two or three years. He would like Mr. Pillers to say how he would account for that outbreak. He gathered that these parasites ought not to live more than a couple of months; how did they manage to exist the rest of a year?

Mr. FORSYTH said he had been adopting a milder treatment, simply train oil and sulphur, but he had a few cases, perhaps one in ten, where he had had to apply different dressing—a mild mercurial dressing. He had had cases recur months and months afterwards, and he did not quite understand them. He could mention cases where the patients had been kept strictly clean, and yet after being apparently cured they had to be treated again at recurring periods for sarcoptic mange. As to pit ponies he had never had anything out of the ordinary in recurrence of parasitic mange, but periodic eczema, especially in Russian ponies, was a very common thing. It cropped up twice a year, in the spring and in the autumn, as regularly as possible, but it was not contagious, and he had never found any parasites A cooling application was generally better for them.

Mr. BROOKE: What is the situation of the trouble?

Mr. FORSYTH: Principally in the shoulders, but occasionally in other parts of the body, generally the parts that come in contact with the harness. He thought the eczema was brought on by the sudden change of temperature in Russia, where they had frost and snow one day and sun the next. Mr. Pillers had given them his idea as to the parasite existing in the tail, but it was difficult to understand how it could go on for twelve months, and especially in a clean stable.

Mr. BAINBRIDGE said he could not understand the use of common soap and acetic soap, as one was alkaline and the other an acid.

Mr. PARKS said he used to have a certain amount of trouble in finding parasites, but when he tried keeping his scrapings warm, as for instance, putting them in an envelope and taking them home in his pocket, near his body, he had no trouble at all. He found exercise of great importance in treatment, although he recognised the difficulty of getting it done, especially in towns, where there was not always room enough. He believed, also, in disinfecting the stables and clothing, but he should have thought that boiling the leather part of the harness, mentioned by one speaker, would have spoilt it. In the country, they perhaps did not see so many cases, but if they made the man whitewash the place well when he has dressed the patient, and make him do it again and again, the veterinary surgeon could tell how much the animal was rubbing.

The HON. SEC. said that like other members who had spoken, he wished to thank Mr. Pillers for his more than interesting paper. When he was in correspondence with that gentleman on the subject he said, referring to the paper Mr. Pillers gave them on the last occasion, "It was a good paper, but we want something more practical this time." Certainly Mr. Pillers had carried out that injunction to the letter, and after all, veterinary surgeons in practice required a paper such as they had heard that afternoon, instead of listening to a lot of theory explained in scientific language, which they sometimes soon forgot. With regard to mange, he thought they had more difficulty with cases that had already been treated. When an animal had already been dressed with a strong dressing it was often very difficult to find the parasites. He had sometimes searched in vain, although he was quite certain all the time that it was a case of parasitic mange. Another difficulty they had to contend against was that the treatment ordered was not always carried out thoroughly. A veterinary surgeon sent a dressing to a client with instructions how to apply it, and it was frequently done in a slipshod manner. The consequence was that they did not get rid of the disease as soon as they might. He knew a man who went about treating mange very successfully, not because there was anything particular about his dressing, but because he was very thorough and very careful about his work. In towns the disease was very prevalent. It was difficult to get patients exercised, partly because the authorities objected, and partly because many owners had no room on their own premises for the exercise to take place.

Mr. EVERSHED described the paper as one of the most useful he had ever listened to; quite a small post-graduate course. As to the method of finding the parasite, when he was at Aldershot they took the scrapings and centrifugalised them, the heavy parasites falling to the bottom of the tube. Did Mr. Pillers adopt any particular treatment for each different parasite, or was his treatment the same for all? He endorsed what a previous speaker said about the removal of all bedding in mange cases in the Army, and the result was always satisfactory.

Mr. BROOKE said he would like to ask another question that had occurred to him during the course of the discussion. Was there any means of enabling them to diagnose a case of mange from one of eczema. He had often found a difficulty himself in the matter. In the smaller animals, and in cats in particular, they were al

familiar with face mange. Was there any reason why it should be in the face almost exclusively, instead of wandering all over the body?

The PRESIDENT, in closing the discussion, gave some of his own experiences. He said he learnt a lesson once in a curious way. He had a case which kept recurring, although the stables were always kept scrupulously clean, and then it occurred to him to have the shafts of the carts cleaned. That was evidently the secret of the trouble, because they had no more of it afterwards. With regard to the treatment of leg mange, he found the old-fashioned remedy, oil of tar and black sulphur, answered very well. There was what was called the South African treatment, and the dressing, which certainly had proved very successful, was composed of the following ingredients: 4 ozs. of paraffin, 2 ozs. of lard oil, and soap solution (1 lb. to the gallon). It was an ideal dressing, cheap also, and made the skin as soft as a glove. As to putting rugs on horses that were clipped, it was not at all necessary. He had eight horses that were clipped every season which never had a rug on them, and they looked as well as anybody else's. Nicotine, he thought, was a dangerous thing to use, and he knew of cases where it had been used on sheep with fatal results. There was a firm in Glasgow that made it at a standard strength. In experienced hands, it was a good thing perhaps in its way, but he would advise them not to try to make their own, as they could never be sure what strength they had got. Some tobacco was different from others.

Mr. PILLERS, replying to the discussion, said the best way of thanking him for any trouble he had been put to in the preparation of the paper was to listen to him as attentively as they had done that afternoon. Their evident appreciation of what he had done was the only thanks he required.

Mr. Brooke advocated the use of rugs for clipped horses, but he (Mr. Pillers) thought that in the treatment of mange, rugs were objectionable. He had seen very few bad results, such as pneumonia, if the rugs were left off after clipping. Dispensing with rugs would probably meet with some opposition on the part of clients, and if they were afraid of offending a client they must act accordingly, but from the point of view of mange, rugs were a source of danger. Apart from the fact that they absorbed the dressing, if the rug became infected there was the danger of other portions of the horse catching the disease.

With regard to the particular oil to use, he thought train oil answered the purpose best. They might colour the sulphur, as one speaker had suggested, but black sulphur was used extensively, and that was not so easily detected. He did not want it to be understood with regard to the treatment that he said oil and sulphur alone were absolutely the thing. The addition of a little tar or turpentine might be a good thing, but his advice was "Don't overdo it."

As to the trouble which some members had mentioned in diagnosing mange, namely, where an animal showed no symptoms although literally swarming with mange lice, that was not at all uncommon. They might find any amount of parasites and no lesions. They might even have that particular animal among a lot of other animals, and none of the others catch it, whilst on the affected animal the disease may not spread at all. He did not think they could say it was not mange because it did not spread. He had been asked to explain why the parasites attacked certain parts of the body. They knew mange of the legs well enough, and there was a parasite that was found in the ear, but he did not know how to explain it apart from the theory of natural selection and the survival of the fittest. In the case of cats, their paws carried the parasite, and it got on the face in fighting. As for leg mange, it was what he might almost term the natural habitat of the parasite, for there was plenty of coarse hair on the leg, and that was the place which the parasite sought out. Location was a curious circumstance, and he did not know that he could explain it in other terms.

The use of soft water and bran, as mentioned by Mr. Grasby, seemed a good idea. As to the use of bedding, he had seen animals with no bedding at all, but they often bruised themselves badly, and the remedy was thus sometimes worse than the disease. As to nicotine, he thought tobacco varied in its composition, and he had seen very bad results from it in the case of some horses. As the President had remarked, it was perhaps best to avoid it altogether. Mr. Wartnaby was not the only one by any means who had had the same difficulty in finding the scab parasite in sheep. It was often very difficult to find, and then one only succeeded after a prolonged search for lesions.

In all the different dressings that had been spoken of, the thing to remember was to set up as little irritation as possible. They had heard in the discussion about animals having the disease once or twice a year for two or three years. That was a feature of psoroptic mange; something happened, and the animal showed symptoms suddenly. The reason was that the coat became long, and the parasites wandered and so spread the disease. In dressing, some parasites got missed, and so the life history of the parasites went on all the time, although it was not observed.

Mr. Forsyth had mentioned what he called periodic eczema, but he (Mr. Pillers) was rather doubtful about it. He was inclined to think it was something parasitic. The want of thoroughness in the application of the dressing, as mentioned by Mr. Dawes, he had noticed himself, but of course they could not always be on the spot themselves, and so were obliged, more or less, to trust other people. In answer to Mr. Evershed's question about the treatment of the different parasites, he thought sarcoptic mange wanted treating a little more strongly.

VOTES OF THANKS.

On the motion of the Hon. Sec., seconded by the President, Mr. Pillers was very warmly thanked for his paper, and a promise extracted from him that he would allow it to be printed in *The Veterinary Record*.

A vote of thanks was also accorded to Mr. S. J. Marriott for making the local arrangements for the meeting, and providing the lantern and screen.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

Yew-Poisoning—Claim for Loss of a Horse.

At Kendal County Court before Judge Gawan Taylor and the Registrar, Mr. G. E. Cartmel, Mr. Ernest Bennett, carrier, Ambleside, claimed from the trustees of the late Miles Dixson, Grasmere (Messrs. W. Fuller and T. Wilson) the sum of £51, value of a horse which died from yew tree poisoning. Mr. Gatey appeared for plaintiff and Mr. W. Heelis for defendants.

Mr. Gatey said the claim was for the value of a horse belonging to plaintiff which whilst on the highway at Grasmere on 13th June ate a portion of yew tree growing upon property of defendants and died in consequence.

His Honour: Do you say the owner is liable if the yew tree branches don't project into the highway?

Mr. Gatey: Yes. There are a large number of cases between adjoining owners. It all depends in those cases on the projection; the man on whose land the tree grows is liable if it projects.

His Honour: And is there a distinction where the yew tree grows over an adjoining land and over the highway?

Mr. Gatey said that was a point he wanted to satisfy His Honour upon.

His Honour said there were no highway cases of yew branches, they were all cases of adjoining owners.

Mr. Gatey said that was so, but the present case had been foreshadowed by Lord Justice Collins in an imaginary case of a poisonous drug being exposed for sale and a child taking some. There was another case of a pitfall being made near a highway and a person falling in.

His Honour said there must be a limit to this doctrine. The horse in this case had evidently got its head over the wall and cropped a yew tree.

Mr. Gatey said this was a poisonous tree adjoining the highway interfering with the public enjoyment and therefore actionable if anything occurred. It was the instinct of the horse to eat anything green it might see.

Photographs were submitted, and Mr. Gatey said the wall projected at the place, and the yew tree was right in front of the horse's nose.

Mr. Gatey contended they had a right on the highway without their rights being interfered with by anything causing danger.

His Honour said, suppose they took a fishmonger's slab, it might have on it some fish poisonous to horses. It was a large doctrine.

Mr. Gatey quoted the case of Harold and another v. Watney in which a child had been injured by placing its foot on a fence bordering the highway when the jury found the fence to be defective and held that it was a nuisance and the owner liable.

His Honour said the horse might be a trespasser. It put its head into another person's garden and ate some yew. They must show how the owner of the horse could recover.

Mr. Gatey said "precisely." The mere fact of a horse being a trespasser did not prevent them having their remedy. There was the case of a man attacked in a field by a horse although he was a trespasser.

His Honour remarked in that case the owner had tacitly allowed people to traverse his field in which he kept a dangerous horse. The House of Lords had not gone so far as to say that though a man had been bitten by a horse or tossed by a bull, whilst trespassing, that the owner was liable.

Mr. Gatey said there was the case of dog spears where a man crossing over a garden was held to be entitled to damages. Although a trespasser a man was not entitled to have to meet any latent danger.

His Honour thought if a horse put its head over another man's land and ate yew the owner of the tree was not liable.

Mr. Gatey then proceeded to quote Hadley v. Taylor, the case of an unfenced hole, and Brown v. Midland Railway Company where a heap of stones by the road-side had caused the horse to shy. He submitted that both the plaintiff and the horse in the present case were legally on the highway, that the horse did not stop a long time, but simply for the purpose of loading and unloading, and there was no question of carelessness.

His Honour: This is a case likely to go further?

Mr. Gatey: Yes, your Honour.

The Judge said he would therefore take a full note and would now hear the evidence.

Richard Hudson, carter for Mr. Bennett, said on the 13th June he took a lurry load of goods to Grasmere, two horses harnessed, one in front of the other. On getting to Grasmere he stopped near Mr. Steane's shop and pulled his horses up about a foot from the side of the road. At the end of the footpath there was a wall projecting out into the road. There was a yew tree growing in the bend of the wall. He got on the lurry to move the cases to the back. They weighed about 1½cwt. each, and witness had his back to the horse. Jack Gibson spoke to him, and in consequence witness got off the lurry and saw the leading horse with some yew in its mouth. He took out of its mouth all he saw. The horse was then standing about a yard from the wall in the same position as he pulled it up. It took him about two minutes to deliver the cases at the back of the shop. He then went on the rest of his round and finished without noticing anything the matter, and got back to the stables about 6.30. He unharnessed the horse, took it out, put it in the stable and fed it. About ten minutes after he heard a noise and went to the stable. The horse had dropped down and was lying in the stall. He went to inform his employer, who sent for the veterinary surgeon. The horse died about five minutes later. It was a perfectly quiet horse.

Cross-examined: He had driven for Mr. Bennett about fourteen years, and had often called at the shop before, every week and sometimes more for ten years. He knew of the position of this yew tree, and that it was dangerous for animals to eat it. When he pulled up the horse was a yard from the wall.

His Honour said he could have pulled the horse up some distance away opposite the next shop.

Mr. Gatey said he would have had further to carry his cases, and having done this for ten years he scarcely anticipated such an occurrence.

Cross-examined? While on the lurry shifting the goods he had no control over the horse. He was not aware of anyone except Gibson drawing his attention to it. Dodgson did not.

John Gibson, grocer's assistant with his father in Grasmere, said on the 13th June he had business at the bank, which was in the same block of buildings as Mr. Steane's shop. On coming round the curve he saw the leading horse eating the yew tree. The driver was on the lurry with his back to the horse. He shoved the horse back into his chains. It was eating the yew. He called Hudson's attention to it as he knew yew was dangerous, and he said "All right," and got off to attend to it.

Richard Scott, M.R.C.V.S., said he had practised in Ambleside 13 or 14 years, and on 13th June was telephoned up, and was on the spot immediately. He went in the stable and found the horse lying in the stall, and it had practically just died as he went in. He advised a post-mortem, and made one next day and found distinct traces of yew tree poisoning, both undigested leaves and twigs in the stomach. The cause of death was an irritant narcotic poison called taxine, the active principle of the yew. It sets up gastritis generally, and causes great prostration It was not unusually quick, as it depended upon the amount of food in the stomach. If there was a large amount of food it would neutralise the effect. This horse had a considerable amount of food in its stomach, which would account for the interval of five hours before death occurred.

In reply to His Honour as to whether yew poisoning did not set up peritonitis, witness said it caused inflammation of the stomach; it did not really get to the intestines. The horse was a sound one, six years old, and he valued it at 60 guineas.

Ernest Bennett, carrier, owner of the horse, testified to sending for the veterinary surgeon, and going to the stable where the horse was lying. He gave £51 for the horse on January 1st, 1912. The horse had improved since he bought it, and he could not replace it for that amount. The horse was not insured.

Septimus Dodgson, bootmaker and coach agent for Riggs, Ltd., and L. & N. W., said he occupied the garden where this tree grew, using it as a tea garden. On June 13th he saw Bennett's man and the two horses outside the chemist's shop. The front horse was reaching up into the tree, eating it. He called out to Hudson, "Look to your horse, it is eating yew." It had then got some in its mouth. He said, "Never mind t' girt ——, it will not eat what'll hurt." Hudson did not get down, and Gibson then came. He had scarcely got the words out of his mouth when Gibson came over

the bridge and put the horse back. Gibson shouted from the bridge, and between him shouting and getting to the horse it went on eating. This distance would be eight or ten yards. Hudson answered Gibson something similarly as he did witness.

Cross-examined: He was tenant of the land on which the yew tree stood, and knew that such trees were poisonous to horses and cattle. Hudson was on the lurry busy moving cases about when he spoke to him.

In reply to the Judge, witness said Gibson spoke from the bridge immediately after him. It might be half a minute or a minute between Gibson speaking and moving the horse's head, Hudson being busy with boxes during the interval. The distance from where Gibson was to the horse's head would be about 15 or 20 yards. It would have been just as easy for Hudson to have jumped off and gone to the horse as witness. The horse would have had time to have got one mouthful before any of them could have got to it. He did not realise, but he had heard it spoken that yew was poisonous.

Mr. Heelis said this was all his evidence, and the court then adjourned for a short interval.

Upon resuming, the Judge said assuming there was negligence (though he did not endorse that proposition) on the part of defendants, there was evidence that Gibson and Dodgson cried out to the driver that the horse was eating yew, and the driver did nothing whilst Gibson traversed the distance of 20 yards to the horse's head. What evidence had he that before Gibson or Dodgson cried out the horse had taken enough yew to kill it? By the exercise of reasonable caution the driver could have avoided the consequences of defendant's negligence, assuming there was any.

The Judge and Mr. Gatey continued to argue the point as to whether the driver had exercised every reasonable care.

Mr. Gatey also held that they were entitled to have the free use of all parts of the highway without risk of coming to any harm.

The Judge replied that the first principle of common law was that defendants were not liable if plaintiff could have avoided the consequences.

Mr. Gatey mentioned that the driver had been going over that road for ten years, and had no reason for thinking such an accident would ever happen.

The Judge said the driver, on his own admission, knew of the danger of yew trees, but never took any care whilst Gibson was 20 yards away.

Mr. Gatey said he did not think they could take Dodgson's evidence as conclusive. He was standing a few yards away, and if he thought there was danger he could easily have stepped the length of the lurry.

His Honour: But he called out, "Look after your horse." The driver should have got there.

Mr. Gatey said it was impossible for anyone to foresee these little points.

His Honour admitted it was so, and said Mr. Gatey had argued with great moderation.

Mr. Scott was re-called, and said he found considerable traces of yew amongst the rest of the food, corn and hay, partly digested along with the food. It had to be partly digested to get the active principle out of the poison. It must have had quite a feed of it, as there was a lot of yew about the stomach.

In answer to the Judge, witness said a smaller quantity might have proved fatal. There was a large amount of food, which would help to neutralise the poison to a certain extent. If there had been two mouthfuls less, he did not suppose it would have made much difference. It was a typical case of yew poisoning.

The Judge repeated, "Why did not the driver pull the leader back, jump down, and pull every scrap out of its mouth?"

Mr. Gatey: Exactly what he did. Even if His Honour held there was negligence on the part of the driver it did not disentitle the plaintiff to recover.

The Judge: Assuming negligence, was the defendant's negligence the cause of the loss?

Mr. Gatey: Were the defendants justified in putting on their land anything which required reasonable care to avoid?

The Judge: Was the loss caused by defendant's negligence, or was it caused by plaintiff's own negligence? The inclination in my mind is that it was due to contributory negligence on the part of plaintiff's man, unless you can satisfy me that the assumed negligence of defendants was the cause of the loss. There is no evidence that the horse had taken enough yew, before the attention of the driver was called, to kill it.

Mr. Gatey: If your Honour is against me on that point, I have no case. I came here to establish that the plaintiff had a perfect right to be on the road, to draw up his horse at this place, and to load and unload goods.

His Honour: But if the plaintiff had knowledge of the dangerous qualities of yew, he was guilty of contributory negligence in leaving his horse there.

Mr. Gatey: But here the defendants have four shops. Every article has to be brought by road, and horses and carts are standing there daily. Yet you allow a yew tree to stand. The defendants enjoy the rents of the shops, and we have to serve them. They put the poison right in front of the nose of our horse.

The Judge: The horse put its nose over the wall.

Mr. Gatey: Look at the danger of driving a herd of cattle past. The leading cattle could get several mouthfuls before being stopped.

His Honour: That is a very interesting point, but I am afraid I cannot decide it to-day.

Mr. Gatey: If you say there was negligence you are against me.

His Honour: I don't want to put it too high, or be too harsh. I think the man was guilty of want of care. He had a summons or a shout from the man at the bridge, and did nothing.

Mr. Gatey: If you are against me on the question of the carter being negligent, or not having done all he ought to have done, I cannot do anything more.

His Honour assumed the point had been established that by exercising reasonable care the carter could have avoided the consequences of his own action, and found judgment for defendants.—*The Lakes Herald.*

The Hunting Memorial Fund.

A meeting of the Sub-Committee of the above Fund will be held at the Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C., at 7.30 p.m., on Friday, Dec. 12th. Chairman, Prof. James Macqueen.

Subscriptions Received up to 7 p.m., Dec. 3rd.

	£	s.	d.
Previously acknowledged	62	8	6
Mr. G. P. Male, Reading	1	1	0
John Lawson, Brooklands, Cheshire	1	1	0
Maj. E. E. Martin, A.V.C., Salisbury	1	1	0
Mr. Alf. Over, Rugby	1	1	0
Capt. L. M. Verney, A.V.C, Canterbury	1	1	0
Mr. Richard Onley, Chelsea		10	6
Lieut. Richard E. Irwin, A.V.C., Woolwich		10	6
Mr. John W. Edwards, Kingston-on-Thames	1	1	0
	£69	15	6

HENRY GRAY, Hon. Sec. & Treas.
23 Upper Phillimore Place, W.

Cheques endorsed "Hunting Memorial Fund" and crossed "The London City and Midland Bank, Ltd, Kensington Branch."

ANNUAL REPORT OF THE CIVIL VETERINARY DEPARTMENT PUNJAB.—By Lieut.-Col. J. FARMER, Chief Superintendent. [ABSTRACT.]

The following officers held the several appointments:

Chief Superintendent.—Maj. G. K. Walker,
Lieut.-Col. J. Farmer.
Superintendent, N. Punjab.—Mr. Woodley.
" *S. Punjab.*—Mr. Taylor.
" *Govt. Cattle Farm, Hissar.*—Lieut.-Col. J. Farmer, Mr. Branford.
Officers under training.—Mr. Meadows, Mr. W. A. Pool Mr. W. Taylor.

The duties of the camel specialist were carried on by the Chief Superintendent for a short time when Mr. Leese was on leave.

The supervision of the Cattle Farm at Hissar has been placed upon the Chief Superintendent since Lieut.-Colonel Farmer took over charge from Major Walker.

Treatment of Disease.

During the year under report 28,125 deaths from contagious disease were reported against 25,455 last year. The increase is due to the large number of outbreaks, and also to the fact that a comparatively small number of cattle were protected from rinderpest by inoculations as fees for inoculations were charged. The people have been accustomed to have themselves and their children vaccinated and inoculated free; therefore they cannot understand why their cattle should not be treated accordingly. The Chief Superintendent, after a considerable amount of trouble, managed to get inoculations done in Jhang where the people are very much against it. A few zaildars, after his lecture, came forward to pay for 100 cattle to be inoculated in their zails. This will show the people the benefit of inoculation.

Deaths from equine contagious disease number 71, against 59 last year. The increase is accounted for by surra.

Glanders has again been prevalent on the Pathankot, Palampur and Dalhousie tonga lines. Very energetic measures have been taken to put a stop to it.

There are now two veterinary assistants, one for the Dalhousie line and one for the Palampur line. Should the disease still continue, two more veterinary assistants will be appointed to detect cases.

The Chief Superintendent considers it very necessary that all licensed ekka and tonga animals in all the districts in the Punjab should be examined and passed by veterinary assistants and some responsible officer before licences are issued.

Surra.—There were 25 deaths from surra as against 16 last year. Muzaffargarh district alone accounts for the increase.

Strangles as usual was prevalent. This disease shows itself during and after fairs. It is very difficult to prevent this. Inspections are made of all animals and diseased ones isolated, but it is quite possible for a case not to show any external symptoms at the time of entering the fair ground.

Tetanus, mange, and bursatee were also prevalent.

Rinderpest was reported from every district in the Punjab. The mortality was 12,924 against 9,317 last year. Although the year was not an unusually unhealthy one, the heavier mortality can be said to be due to the fact that more inoculations should have been performed, but as fees have now been withdrawn, better results will ensue.

Treatment with potass permanganas was carried out in the central circle. Out of the 159 animals so treated 130 recovered. More will be done when opportunities occur to prove the success of this treatment.

The Department has been explaining to the people the absolute necessity for isolation and nursing. The Chief Superintendent had an opportunity of explaining to the different gatherings the results of bad feeding. It is only by dealing with the people in this way that they get to understand the elements of practical hygiene and so improve the conditions under which cattle are reared. The disease in a famine year is generally worse, as the animals are so debilitated that they are unable to withstand an attack of the disease, and there is no reserve of good fodder with which to feed sick animals during convalescence.

18335 inoculations were performed in 197 outbreaks which occurred in 19 districts; 3,651 uninoculated and 67 inoculated animals died in the course of the outbreaks. A few of the district boards have paid for inoculations which has been a great help to the department. Had it not been for them the mortality would have been heavier than is reported.

Foot-and-mouth disease.—This disease was reported from 23 districts, and 323 animals died against 684 last year.

The mortality from this disease is very small, and is chiefly caused by flies (*Sarcophagus liniata colis*). This fly is capable of laying at least 20 larvæ in a minute on the sores in the interdigital space and mouth. The same fly causes a great deal of trouble in rinderpest.

Although the deaths from foot-and-mouth disease itself are very small, the deformities caused in the feet by it and maggot infection are very great, and this is chiefly the reason of so many bad feet in the country. It also affects the development of young stock.

Material from foot-and-mouth disease cases was sent to Bareilly for the benefit of the Royal Commission investigating the disease.

Hæmorrhagic Septicæmia was reported from every district in the province. 8676 animals died against 10,894 in the previous year.

From the Chief Superintendent's personal experience it is ascertained that the disease remains confined to certain areas where water lies in shallow pools where land becomes inundated, and in places where canal water gets on to already infected land, which is not cultivated.

The following occurred on the Hissar Farm. There is a shallow tank which was supplied from the Western Jumna Canal. Hæmorrhagic septicæmia occurred at all times of the year, and after careful investigation it was discovered that the herds affected with the disease grazed on the banks of this tank. The area was enclosed with a thorn fencing, and the disease in consequence stopped. About three weeks later, owing to a storm, the fencing became breached, and the animals got into the area and the disease broke out again. The breaches were repaired and the tank dried, and the grass and jungle on the ground all round cut and burnt. The intention was to have the whole place well ploughed up, as it is believed that if these places are so treated, the organism which lies under the soil, where there is still moisture, if exposed to the sun will be destroyed. The Chief Superintendent has been advising zaildars to have this done. At what depth the organism survives he is unable to say. In large infected tracts besides rivers he recommends that cattle be kept away until the ground becomes dry on the surface and the grass is fully ripe. To expect a grazier to prevent cattle going to these areas before they are dried, is a great deal. Until the people thoroughly understand the benefit of the system, vaccination will have to be done. This method will be carried out experimentally next year in as many places as possible. He thinks, from his experience, that it is not fly transmitted.

Preventive inoculation.—1043 animals have been inoculated with hæmorrhagic septicæmia serum in 9 outbreaks, and 1332 were vaccinated in 27 villages in 6 districts.

Blackquarter.—The mortality from this disease is normal. Until inoculations are performed regularly, *i.e.* after animals are weaned, in infected areas the mortality will not decrease. At the Hissar Farm this is done, and the results have been good. Deaths do occur before weaning, but not so often as after weaning. The immunity lasts for six months after vaccination.

At Hissar certain jols (low-lying depressions where grass grows luxuriously and keeps green for a longer time) were cleared out and burnt one year; the result was good and fewer cases occurred.

Investigation of diseases.—Information was received by the Chief Superintendent that a disease called phutka amongst goats in Kangra and Kulu was devastating the flocks. The goats belong to a class of people called Gaddis. They graze their animals over very large areas. They march their sheep and goats at least five miles a day. After a great deal of difficult marching and visiting their encampments, cases of the disease were procured, and were sent to the College for investigation, as the Chief Superintendent's time was fully occupied in investigating the disease in the field. The disease is a contagious pneumonia, and owing to the goats being marched daily, it gives the animal very little chance of recovery. The necessity of isolation and giving rest to diseased goats has been fully explained, but it is a difficult matter to carry out, as Gaddis cannot stay more than a day at a place when on the march, owing to rules and regulations laid down. In this way ground becomes contaminated, and fresh flocks passing that way are affected. Before the Chief Superintendent's visit the Gaddis were so suspicious that they would not divulge where the disease was prevalent. This suspicion has now been overcome. A great number of goats die of inanition brought about by inability to graze on the hill sides, owing to their being crippled by diseased feet. The disease is caused by injuries in the cleft of the foot, followed by abscesses. Gradually the horn of the foot sloughs and the disease extends up the leg. The injuries, if attended in time, can be cured.

Specimens.—One hundred and sixty specimens were received and examined by the Chief Superintendent, and 85 and 269 by the Superintendents, North and South Punjab, respectively. Specimens of blood-sucking flies and ticks were collected and forwarded to Pusa. The Chief Superintendent hopes that in the future, veterinary assistants will know more about the flies and ticks in the province than they do at present. It is hoped that next year the areas showing the different species of flies will be mapped out.

Other Diseases.

During the year 9,948 villages were visited by the veterinary staff on tour, and 63,416 animals were treated.

2268 castrations were performed against 1059 last year. Although there is a marked increase, but yet it is insufficient. Cattle breeding will never improve until a large number of castrations are performed.

Veterinary Hospitals.

At the close of the year there were 113 hospitals in the province, at which 270,889 cases were treated, against 109 hospitals and 241,291 cases in past year. This is very satisfactory increase, and indicates the growing popularity of the institution.

At present there are 86 veterinary hospitals on approved plans. The Chief Superintendent is glad to say that after a little persuasion a new veterinary hospital is being built at Amritsar. He has to thank Mr. J. Addison for his kind help in the matter.

The only income is from fees which amount to Rs. 18,489, against Rs. 16,450 last year. This is a satisfactory increase. The Department is not a commercial one, and what should be remembered is the amount of good done to the sick and lame animals, belonging to the poor, free of charge.

All cruelty cases arrested by the Inspector, R.S.P.C.A., on the Pathankot-Dalhousie line are treated at the veterinary hospitals. A great number were also seized and sent to hospitals by the Superintendents of the Department for treatment. This Department has done a great deal more during the year to alleviate the suffering of the dumb animals than the outside public can imagine.

The Simla veterinary hospital is doing good work, and is self-supporting. Veterinary Assistant Ghulam Hussain deserves great praise for his work. During the year the income was Rs. 5,644. After deducting all expenses, Rs. 3,250 were credited to the provincial revenues.

DISEASES OF ANIMALS ACTS, 1894 TO 1911.

Return showing the number of Premises on which the existence of TUBERCULOSIS has been notified to the Board of Agriculture and Fisheries during the month of November, 1913.

ENGLAND (Counties)		*
Bedford	1	1
Berks	3	5
Cambridge	1	1
Isle of Ely	1	1
Chester	44	45
Cornwall	9	10
Cumberland	3	3
Derby	19	21
Devon	14	15
Dorset	1	1
Durham	13	17
Essex	3	3
Gloucester	8	8
Hants	8	8
Hertford	5	5
Huntingdon	3	3
Kent	15	17
Lancaster	39	41
Lincoln, Kesteven	4	4
„ Lindsey	6	8
London	1	1
Middlesex	5	6
Monmouth	2	2
Norfolk	2	3
Northampton	9	10
Notts	9	10
Oxford	1	1
Salop	11	11
Somerset	7	7
Stafford	24	25
Suffolk	4	4
Surrey	7	8
Sussex, East	7	8
„ West	3	4
Warwick	9	10
Westmoreland	3	4
Wilts	21	23
Worcester	7	7
York, East R.	10	10
„ North R.	9	9
„ West R.	39	40
WALES.		
Anglesey	10	10
Brecon	1	1
Denbigh	9	9
Flint	3	3
Montgomery	2	2
SCOTLAND.		
Aberdeen	23	24
Argyll	3	3
Ayr	17	18
Dumfries	4	4
Elgin or Moray	2	2
Fife	6	6
Forfar	9	9
Haddington	2	2
Kirkcudbright	12	12
Lanark	12	12
Midlothian (ex City of Edin.):	6	6
City of Edin.	1	1
Nairn	1	1
Perth	8	10
Renfrew	4	5
Selkirk	1	1
Wigtown	6	8
TOTALS	532	569

* Number of bovine animals suffering from tuberculosis of the udder, tuberculosis with emaciation, or giving tuberculous milk, in respect of which notice of intention to slaughter has been received.

Salaries of G.V.S. in S. Africa.

A correspondent in South Africa writes us that the sums shown in the note at p. 227, Oct. 4, are incorrect, at least so far as South Africa is concerned, and points out that in an advertisement in our issue of May 4, 1912, the salary offered is to commence at £350, and to rise to £500 by annual increments of £15.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax. Outbreaks Con-firm'd	Anthrax. Outbreaks Re-ported	Anthrax. Animals Con-firm'd	Anthrax. Animals Re-ported	Foot-and-Mouth Disease. Out-breaks	Foot-and-Mouth Disease. Ani-mals.	Glanders† (including Farcy) Out-breaks	Glanders† (including Farcy) Ani-mals.	Parasitic Mange. Out-breaks	Parasitic Mange. Ani-mals.	Sheep Scab. Out-breaks	Swine Fever Out-breaks.	Swine Fever Slaughtered.
GT. BRITAIN. Week ended Nov. 29	18		19				3	6	26	35	17	63	462
Corresponding week in 1912	20		31				1	1	41	94	17	56	638
Corresponding week in 1911	19		40				4	9			11	45	703
Corresponding week in 1910		25		33			3	17			14	35	416
Total for 48 weeks, 1913	528		581		1	23	138	331	2207	4337	180	2335	29521
Corresponding period in 1912	701		794		82	639	165	304	2635	5554	255	2728	37312
Corresponding period in 1911	829		1034		18	467	197	477			358	2277	27733
Corresponding period in 1910		1343		1600	2	15	333	973			413	1395	13040

† Counties affected, animals attacked: London 6.

Board of Agriculture and Fisheries, Dec. 2, 1913.

IRELAND. Week ended Nov. 29	...	...	...	...	...	...	Outbreaks ...	12	1	...
Corresponding Week in 1912 ...	...	...	...	...	...	...	1	13	2	17
Corresponding Week in 1911 ...	...	...	...	...	...	...	1	5	5	3
Corresponding Week in 1910 ...	...	...	...	...	...	...	...	14	2	106
Total for 48 weeks, 1913 ...	...	...	...	...	1	1	112	474	130	847
Corresponding period in 1912 ...	3	3	68	382	...	...	60	337	204	1652
Corresponding period in 1911 ...	9	16	...	...	2	3	54	309	148	2347
Corresponding period in 1910 ...	7	12	...	...	1	2	63	419	88	2073

* These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 1, 1913

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

REVIEW.

CLINICAL BACTERIOLOGY AND VACCINE THERAPY FOR VETERINARY SURGEONS. — By WILLIAM SCOTT, F.R.C.V.S. Pp. xvj. + 222. With 12 plates and 37 figures in the text. Price 7/6. net (Bailliére, Tindall and Cox, 8, Henrietta Street, Covent Garden, London).

In one respect this book is a remarkable one. It is the work of a country practitioner who for some years has been carrying out the whole routine of vaccine therapy—including the preparation of autogenous vaccines—in his daily practice, and its aim seems to be to induce others to do likewise. Very few veterinary clinicians have yet attempted to work in this direction single-handed, and the book is interesting on that account.

For purposes of review, the work may roughly be divided into two sections. The first deals with laboratory apparatus and technique, the identification and cultivation of bacteria, the preparation of vaccines, and similar subjects. The only criticism that seems necessary here is that this section contains nothing new, and that the whole of its matter may be found treated in greater detail in so many other books that it seems a pity that it was allowed to occupy so much of this one. As it stands, it is necessarily condensed, and we doubt whether it would be found sufficient as a practical guide to those taking up the subject. On the other hand, its inclusion has led to the compression of the second and more original section of the work. This consists of a series of short articles upon different diseases in which vaccine therapy is, or may become, beneficial, and the list is a comprehensive one. Tuberculosis and its secondary infections, distemper, strangles, pneumonia, bronchitis, tetanus, diarrhœa, and dysentery, pyæmic, and septicæmic arthritis, follicular mange, poll-evil, fistulæ of the withers and præsternum, endometritis, anthrax, and black-quarter may be mentioned as a few.

The author has had practical experience in treating most of these conditions with vaccines, and this summarised experience makes the real value of the book. Without entering into details, we may say at once that there is much in this section—especially with regard to dosage, and the combinations of vaccines and sera—that will be suggestive and helpful to practitioners interested in the subject.

In a future edition, we hope to see this section of the work extended, and at present the author may be thanked for helping to open up a new field to clinicians. There are evidences of hurried writing in the book, and there are portions which seem superfluous. But upon the whole it will be a real aid to any who desire to work along the same lines.

A JOURNAL OF ANIMAL PSYCHOLOGY.

We have received a prospectus, including some specimen pages and illustrations of a new German journal devoted to animal psychology. The title—"*Tierseele Zeitschrift für Vergleichende Seelenkunde*"—may be translated as—"Animal Mind. Journal for Comparative Psychology." It is edited by Herr Karl Krall, of Elberfeld, a well-known student of the subject, and is issued by the publishing house of Emil Eisele, of Bonn. Four numbers, each of from 88 to 100 pages, will appear during a year, and the annual subscription will be 12 marks inland, and 14 marks if transmitted abroad.

The index and specimen pages before us include a good number of articles—many of them by doctors and professors—upon animal psychology, the protection and rights of animals, and similar subjects ; and several of the articles treat of the "educated horses" of which so much has lately been heard in Germany. One feature of the work is a comprehensive bibliography of the subject ; and the specimen illustrations are all good. To those who are interested in this very controversial subject and can deal with the German language, we should say the publication is well worth its price.

W. R. C.

"Post-Graduate" Dinner.

The members of the Post-graduate course entertained Sir John M'Fadyean and his staff to dinner at the Trocadero on the 26th inst. Mr. G. J. Harvey occupied the chair and proposed the health of the guests of the evening. The following were present :

Guests.—Sir John M'Fadyean, Messrs. Sheather, Knowles, Hayhurst, and Lander.

Members.—Capt. Collier, Capt. Rees-Mogg, Messrs. Dixson, Richardson, Poulton, Eadie, Penhale, Phadke, Gosling, Sheffield, Finch, Taylor, Shawcross, Grey, De Kock, Brookes, Fraser, Ward, Danbrey, Scott Moncrieff.

Sir Stewart Stockman, Mr. Cooksey, and Mr. Chamberlain, who sang some excellent songs, were also present as private guests.

ARMY VETERINARY SERVICE.

Extract from *London Gazette.*

War Office, Whitehall, Dec. 2.

Regular Forces. Army Veterinary Corps.

Major A. H. Lane retires on retired pay. Dated Dec. 3.

Personal.

Mr. E. Nettleship, F.R.C.S., of Longdown Hollow, Hindhead, Surrey, who died on Oct. 30, left estate sworn at £26,768 gross, and £23,225 net. After the death of his wife he left certain legacies to relations and friends, and also the following charitable legacies payable after the death of his wife :—£3,000 to St. Thomas's Hospital for the creation or augmentation of a fund for the endowment of lectureships in the medical school, and £1,000 to the Royal London Ophthalmic Hospital. He also left a share of his residuary estate to the same charities after the death of his wife as follows :—If the ultimate residue of his estate exceeds £9,000, then £2,000 to the medical school of St. Thomas's Hospital for the same purposes as the above-mentioned legacy to them, and £1,000 to the Royal London Ophthalmic Hospital. If the ultimate residue is less than £9,000 but over £6,000 the share of the hospitals is to be reduced accordingly ; but if it is under £6000 the whole is given to relations of the testator.

OBITUARY

John S. Drabble, M.R.C.V.S., Halifax, Yorks.
Graduated, New, Edin : May, 1900.

Mr. Drabble died at Halifax on December 1st, from influenza, with acute lobar pneumonia. Aged 37 years.

Thomas Fowler Hutchinson, M.R.C.V.S., Leyland, Preston. Lond : April, 1865.

Death occurred on Nov. 27th from arterio sclerosis, terminating in cerebral hæmorrhage, at the age of 67 years.

James Robt. Whittle, V.S., Westgate-on-Sea, died on November 27th from rupture of aortic aneurism. Aged 72 years.

CANKER.

Sir,

I have bitten off more than I can chew. I thought that, on account of my note on the above disease, I might be called upon in the course of a few weeks to answer a stray correspondent as to how I treated my cases. Monday morning's post brought me thirty letters on the subject, and they are still arriving. The postman must think that I have started a matrimonial agency.

As I cannot possibly write to each of these numerous correspondents, I am having a leaflet printed, giving my views and mode of dressing, which I hope will be accepted under the circumstances as an answer. Many of the letters are most interesting, and I could not help thinking that it would be to the advantage of the profession if some of my correspondents would become occasional correspondents of yours. Two things are apparent. Canker is of much more frequent occurrence than most of us thought. None of the methods of treatment usually practised are effective in severe cases—that recommended by Mr. Malcolm is spoken of favourably in a few letters, but condemned in many others. The fantastic method of bits of rolled tow gets no support, and every correspondent who has tried arsenic internally found it useless.

Nitrate of lead, spirit and formalin, carbolic acid, dry dressings, iodoform, etc., all have for the most part proved unsatisfactory. In the course of a couple of months I hope to be able to state how the method that I have found successful is viewed by others.—Yours faithfully,

W. R. Davis.

ARSENIC IN TREATMENT OF CANKER.

Sir,

I notice that Capt. Hilliard, A.V.C., reports a case of canker which made a complete recovery under the treatment of arsenic. I also had a case in an Artillery horse at Meerut three or four years ago which made a complete recovery from canker under the treatment of arsenic, but after several months the disease broke out again and the horse had to be destroyed. I hope Capt. Hilliard will be more fortunate.—Yours truly,

Graham Rees-Mogg.

November 26.

"PROFESSIONAL"?

Sir,

I hope that you can find room for the enclosed cutting from *The Farmer and Stockbreeder* of December 1st., 1913. I should like to ask the members of the profession if they think they have reason to be proud of "Vet." as a fellow member.—Yours, etc.,

Country Practitioner.

Delayed Puberty (B).—Yes, there is a special method of operating on rigs, which you should learn as a castrator, or you are at a disadvantage compared with some others. There is an American book called "Animal Castration," by Liautard, price 10s. 6d., published by Bailliere and Co., Henrietta Street, W.C., which both describes and illustrates it. The odd testicle can often be got without this diving into the abdominal cavity, if the animal is chloroformed and the operator gets someone else to put his arm up the rectum and press towards the scrotum, while he works his hand from a backward position and brings along the testicle. You will better understand what is meant by referring to pigs, whose testicles can either be pushed up close to the anus or down some distance towards the navel, and can be taken out in either situation. You will no doubt have found one testicle in all sorts of odd places in the flank. Before you decide that the missing organ is inside, a full exploration should be made. Complete insensibility under chloroform relaxes the cremaster muscle, which may alone be the cause of the testicle being held up. —Vet.